

Los Angeles Water Board Response to Specific Written Comments by NRDC, LA Waterkeeper, and Heal the Bay, dated August 31, 2015, on the Upper Los Angeles River Draft EWMP

Comment No.	NRDC, LA Waterkeeper, and Heal the Bay Comment	Los Angeles Water Board Response
III.A	<p>A. The Proposed Financial Strategies are Inadequate The 2012 Permit requires that Permittees participating in an EWMP maximize the effectiveness of funding, and “[e]nsure that a financial strategy is in place” to implement the pollution control measures identified by the RAA and EWMP process. (2012 Permit, at VI.C.1.g.vi., VI.C.1.g.ix.) This Permit provision underpins the State Board’s rationale for approving the EWMP process. In its Final Order upholding the 2012 Permit including its EWMP provisions, the State Board concluded that “the WMP/EWMP approach is a clearly defined, implementable, and enforceable alternative to the receiving water limitations provisions... and that the alternative provides Permittees an ambitious, yet achievable, path forward for steady and efficient progress toward achievement of those limitations while remaining in compliance with the terms of the permit.” However, without an adequate financial strategy to properly execute the BMPs proposed by the EWMPs, compliance with RWLs and TMDL-specific limitations will <i>not</i> be ensured. Failure to demonstrate a real financial commitment for implementing the EWMP, therefore, goes against the State Board’s clearly stated goal of the EWMP approach – that is, to achieve compliance with water quality standards.</p> <p>In all of the four EWMPs that Environmental Groups reviewed, Permittees’ cost estimates for implementing the EWMP are substantial and orders of magnitude higher than have previously been committed by the agencies to their MS4 programs. For example, for the</p>	<p>Comments on the proposed financial strategy were considered and reflected as appropriate in the Los Angeles Water Board’s October 21, 2015 Review Letter on the draft EWMP (hereafter, Review Letter). Specifically, Comment 9 in Enclosure 1 of the Review Letter directed the Group to provide a prioritization of specific financing strategies; to update the financial strategy with any new information regarding the Group’s efforts and the challenges related to securing funding; and to specify sources of funding for near-term projects and/or identify their process for securing this funding. The Upper Los Angeles River Group adequately addressed these comments in its revised EWMP.</p> <p>The permit requirement is to “ensure that a financial strategy is in place.” The permit does not require that each element of the financial strategy is fully developed before the Board can approve an EWMP. The level of detail provided in Section 9 of the EWMP is appropriate to the permit requirement for a financial strategy. Section 9 includes estimates of EWMP implementation costs, including costs by control measure type and milestone, costs by tributary area, and unit capital costs by parcel. Existing stormwater programming costs and funding sources are also included, as well as the Group’s financial strategy for potential funding sources, prioritization, signature projects, and potential future steps. Overall, Section 9 of the Upper Los Angeles River EWMP adequately discusses the Group’s financial strategy and meets the permit requirement.</p> <p>The commenters state that, at a minimum, the Financial Strategy section must describe in detail certain elements.</p>

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	<p>ULAR EWMP Group, the capital costs to address Water Quality Priorities by 2037 is estimated at over \$6.0 billion, with total operations and maintenance costs exceeding \$210 million per year once fully implemented. For the USGR EWMP Group, the total cost for implementation of the EWMP through 2040, including operation and maintenance, is approximately \$2.14 billion. For the NSMBCW EWMP Group, the estimated total capital and operation and maintenance costs for proposed structural BMPs over 20 years are \$54.2 million. Lastly, for the Beach Cities EWMP Group, the total 20-year life-cycle costs to implement each structural BMP plus the associated annual operation and maintenance costs over 20 years are \$150 million. Currently, none of these four watershed groups have sufficient funds or dedicated funding streams to construct the projects proposed in their EWMPs; thus, all four EWMP Groups must pursue additional stormwater funding from multiple sources in order to ensure that the <i>additional</i> costs of compliance with the 2012 Permit as a result of EWMP implementation can be covered.</p> <p>Unfortunately, none of the EWMPs that Environmental Groups reviewed provides a funding roadmap, let alone demonstrates a commitment to securing funds, to implement the proposed control measures as required for achieving Permit compliance. While the EWMPs identify, to varying degrees, the potential funding sources/projects needed to achieve compliance with RWLs and TMDL-specific limitations, without an actual step-by-step plan or strategy to carry out the identified financial projects, however, the EWMPs are merely paper exercises. For example, the potential funding sources identified in the EWMPs generally included</p>	<p>While the permit provision does not require this degree of specificity, as noted above, the Board finds that the Group has described the elements identified by the commenters in the revised EWMP, as indicated below.</p> <ol style="list-style-type: none"> 1) Selection and prioritization of the multiple financial approaches identified; <ol style="list-style-type: none"> a. The Group has prioritized financial approaches for low impact development projects, green streets projects, regional projects, and projects on private property in Tables 9-5 through 9-8. 2) Identification of current funding streams, for each of the EWMP Group Members, sufficient to implement existing stormwater projects; <ol style="list-style-type: none"> a. The Group identified its existing funding sources and stormwater program costs in Table 9-4. 3) An articulation of the relative financial responsibility and contribution of each of the EWMP Group Members to EWMP implementation, and the Memorandum of Understandings or other legal documents memorializing this organization; <ol style="list-style-type: none"> a. For signature regional projects, Table 4-1 articulates the responsible EWMP jurisdictions and sets a near-term pre-design milestone in 2017 for responsible jurisdictions to establish cost-sharing mechanisms for multi-jurisdiction projects. 4) An identification of the available grants, application timelines and requirements, and the lead EWMP Group Member(s) that will undertake and coordinate the grant-writing efforts; <ol style="list-style-type: none"> a. The Group provides information on federal and state grants in Section 9.3.1, highlighting

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	<p>grants, bonds, State Revolving Funds, interagency partnerships, local funding opportunities, legislative or policy changes, and public private partnerships. A couple of the EWMPs also discuss, in general terms, barriers associated with some of the funding sources and ways those barriers might be overcome. However, all of the Financial Strategy sections reviewed end at the identification of these sources and barriers. To the extent any type of “strategy” is actually discussed, the draft EWMPs recognize the need for interagency collaboration and a coordinated, regional approach, but this need is merely described in a vague, cursory manner and again, with no specific details on how to accomplish the necessary interagency and regional collaboration.</p> <p>Mere identification of potential funding sources, with no details whatsoever regarding the specific action steps that Permittees will need to take in order to carry out some of the funding strategies proposed, does <i>not</i> constitute a sound financial strategy sufficient to meet the Permit requirement. In order for Permittees to provide the level of assurance that the EWMPs will ultimately achieve compliance with water quality standards as required by the State Board, the Financial Strategy element of the programs must <i>actually</i> be “in place” before the Regional Board can approve the EWMPs. At a minimum, the Financial Strategy section must describe in detail the following elements:</p> <ol style="list-style-type: none"> 1) Selection and prioritization of the multiple financial approaches identified; 2) Identification of current funding streams, for each of the EWMP Group Members, sufficient to 	<p>available grant funds and typical grant requirements. For regional projects, Section 9.3.3 describes the general process that responsible agencies will take to secure funding and outlines the processes for obtaining funds through the Clean Water State Revolving Fund and federal/state grant programs, which are identified as preferred funding sources for regional projects.</p> <ol style="list-style-type: none"> 5) Model legislation or ordinance, and a timeline for seeking municipal stormwater fees, if any; <ol style="list-style-type: none"> a. Section 5.2 describes the City of Los Angeles’ infrastructure-related street programs including an ordinance that incorporates green infrastructure requirements for street projects. Table 7-4 includes a description of the small site LID ordinance being implemented by the City of Temple City. Section 9.3.4 discusses the development of a financial plan and work to address recommendations related to legislation, developing a regional stormwater quality fee, and implementing local funding options. 6) A funding schedule, based on the interim and final compliance deadlines in the 2012 Permit, which sets forth the timeline for securing grants, loans, stormwater fees, or other funding mechanisms that will ensure funding is in place to timely implement the EWMP measures; and <ol style="list-style-type: none"> a. The funding schedule is implicitly laid out based on the compliance deadlines and the project implementation schedules in Section 7.

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	<p>implement existing stormwater projects;</p> <p>3) An articulation of the relative financial responsibility and contribution of each of the EWMP Group Members to EWMP implementation, and the Memorandum of Understandings or other legal documents memorializing this organization;</p> <p>4) An identification of the available grants, application timelines and requirements, and the lead EWMP Group Member(s) that will undertake and coordinate the grant-writing efforts;</p> <p>5) Model legislation or ordinance, and a timeline for seeking municipal stormwater fees, if any;</p> <p>6) A funding schedule, based on the interim and final compliance deadlines in the 2012 Permit, which sets forth the timeline for securing grants, loans, stormwater fees, or other funding mechanisms that will ensure funding is in place to timely implement the EWMP measures; and</p> <p>7) A demonstration that the collective mix of funding sources identified in the Financial Strategy is sufficient to implement all of the proposed control measures in the EWMPs and consistent with the schedules established in the EWMPs.</p> <p>The funding strategy aspect of the EWMP is one of, if not, <i>the most</i> important piece of the program because without an adequate financial strategy and commitment in place, it will be impossible for Permittees to successfully implement their EWMPs and thus the entire program development process would be a futile exercise and would only result in the delay of achieving ultimate compliance with water quality standards.</p>	<p>7) A demonstration that the collective mix of funding sources identified in the Financial Strategy is sufficient to implement all of the proposed control measures in the EWMPs and consistent with the schedules established in the EWMPs.</p> <p>a. The Group has identified a wide mix of potential funding sources that could be used to implement the proposed control measures. Establishment of some of these funding sources is a work-in-progress, while funding from other sources is readily available. The Group is pursuing both immediately available funding and longer term funding sources.</p> <p>Regarding the commenters' concerns that there is a "failure to demonstrate a real financial commitment," the Los Angeles Water Board has made clear that once schedules are set in the EWMP, financial constraints cannot be used to justify a missed deadline. While Permittees will likely continue to refine their financial strategy and work to establish certain elements, as is appropriate, the interim and final implementation milestones in the EWMP provide sufficient accountability relative to the Los Angeles Water Board's and State Water Board's goal that implementation of the EWMPs will effectively address MS4 discharges to achieve compliance with TMDL requirements and receiving water limitations. Any extensions to the schedules in the EWMPs must be justified and approved by the Los Angeles Water Board.</p> <p>Further, it must be noted that the Los Angeles Water Board recognizes the sizable investment that Permittees will need to comply with the EWMPs and has committed to supporting, as it is able, Permittees' efforts to secure</p>

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		<p>funding. Since submittal of the draft EWMPs, and in response to concerns raised regarding the cost of EWMP implementation, the Board has held and invited Permittees and other stakeholders to attend two additional workshops on the proposed EWMPs on November 5, 2015 and March 3, 2016. The costs of EWMP implementation were a central topic of both workshops. In particular, the November 2015 workshop included a staff presentation on cost considerations and a focused “funding strategies panel” that included presentations from the authors of the <i>Stormwater Funding Options</i> report prepared for the California Contract Cities Association and the League of California Cities (Los Angeles County Division); the City of Los Angeles; Heal the Bay; and the State Water Board Office of Chief Counsel. Public comments were also heard during this workshop. The Los Angeles Water Board also coordinated with USEPA Region IX to host an “East Coast/West Coast Knowledge Exchange” on local stormwater financing strategies in February 2015, which was attended by many Permittees participating in an EWMP.</p>
<p>III.B.i</p>	<p>B. Proposed Compliance Schedules are in Violation of State or Federal Law or are Otherwise Unreasonably Long i. Pollutants Subject to an Established TMDL In several instances, Permittees incorrectly incorporate interim milestones and final compliance deadlines for certain WBPCs addressed by TMDLs. For WBPCs addressed by TMDLs, the 2012 Permit requires the Permittees to incorporate the compliance schedules found in Attachments L through R of the Permit into the EWMP, and where necessary, develop interim milestones and dates for their achievement. (2012 Permit, at VI.C.5.c.) A Permittee participating in an EWMP that does not thereafter comply with the</p>	<p>The compliance schedules set out in the ULAR EWMP for TMDLs implementing California Toxics Rule criteria, such as metals, do not violate state or federal law. The commenters have previously raised this assertion regarding the legality of compliance schedules for CTR-based pollutants to both the Los Angeles Water Board and the State Water Board. The Los Angeles Water Board responded to this comment during the Los Angeles Water Board’s proceedings to adopt the permit and in response to the petition filed by the Environmental Groups with the State Water Board. In Order WQ 2015-0075, the State Water Board upheld the Los Angeles Water Board’s inclusion of compliance schedules in the permit and stated the following with regards to CTR pollutants – “We also note that the State Water Board’s</p>

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	<p>compliance schedule must instead demonstrate compliance with its interim water quality-based effluent limitations (WQBELs) and/or RWLs of the Permit. (Id. at VI.E.2.d.i(4)(c).)</p> <p>The ULAR EWMP sets interim and final compliance dates for the LAR Metals TMDL and Harbors Toxics TMDL based on their pre-established implementation schedules. The pollutants addressed by these TMDLs, however, are regulated by the California Toxics Rule (CTR), which establishes water quality standards for priority toxic pollutants in California’s inland surface waters and enclosed bays and estuaries. The CTR also states that the compliance schedules for the regulated pollutants cannot extend for more than five years from the date of permit issuance; however, the provisions authorizing compliance schedules in the CTR expired on May 18, 2005. This means that permits issued after that date may not incorporate compliance schedules for pollutants regulated by the CTR. As a result, EWMPs pursuant to the 2012 Permit may not incorporate compliance schedules for CTR-regulated pollutants, therefore the interim and final compliance deadlines for LAR Metals TMDL and Harbor Toxics TMDLs established by the ULAR EWMP are illegal because they violate the CTR. Permittees of the ULAR EWMP Group must instead demonstrate immediate compliance with the pollutants addressed by these TMDLs.</p> <p>For the USGR EMWP, the same situation exists. The USGR EWMP illegally incorporates interim and final compliance deadlines for SGR Metals and Impaired Tributaries Metals and Selenium TMDL and DC and Greater LA and LB Harbor Water Toxic Pollutants TMDL</p>	<p>Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2005) (State Implementation Policy) and the CTR itself (40 C.F.R. § 131.38(e)) restrict the scope of compliance schedules for effluent limitations addressing the discharge of toxic pollutants; however the policy does not apply to storm water discharges. (State Implementation Policy, p.3, fn.1.)”</p> <p>The compliance schedules in the ULAR EWMP are consistent with the TMDL implementation schedules set forth in the Los Angeles Water Board’s Basin Plan and the compliance schedules set forth in the Los Angeles County MS4 Permit. The EWMP also contains interim requirements consistent with the permit requirements, where appropriate.</p>

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	<p>because the pollutants covered by these TMDLs are governed by the CTR. Because these TMDLs were established based on CTR criteria, the USGR EWMP (which is being developed pursuant to a permit issued after May 18, 2005) may not incorporate their implementation schedules, and instead, the Permittees must demonstrate immediate compliance with these CTR-regulated pollutants.</p> <p>In the Beach Cities EWMP, for the Dominguez Channel (DC) watershed, toxicity, copper, lead, and zinc are all addressed by a Regional Board-established TMDL and therefore their corresponding compliance schedules are incorporated into EWMP. However, copper, lead, and zinc are pollutants covered by the CTR, therefore their compliance schedules are illegal.</p>	
<p>III.B.ii</p>	<p>B. Proposed Compliance Schedules are in Violation of State or Federal Law or are Otherwise Unreasonably Long</p> <p>ii. Pollutants in the Same Class as Those Addressed in a TMDL</p> <p>In several instances, Permittees establish incorrect milestones and final compliance dates for WBPCs not addressed by a TMDL, but where the relevant pollutant is in the same class as a TMDL pollutant and for which the water body is identified as impaired on the State Board's CWA section 303(d) List. For these types of pollutants, the Permit requires the EWMP to incorporate a schedule consistent with the TMDL schedule for a pollutant of the same class. (Id. at Part VI.C.a.i.)</p> <p>The ULAR EWMP lists the following pollutants as Category 2 WBPCs: dioxin, total mercury, copper, total thallium, and daizinon. The ULAR EWMP defines</p>	<p>Comment considered and added as appropriate to the Board's Review Letter. Specifically, Comment 2 in Enclosure 1 of the Review Letter directed the Group to revise its dry and wet weather compliance schedules for dioxin. The Upper Los Angeles River Group adequately addressed the Board's comment in its revised EWMP. The Group updated the milestones in Table 3-13 to include compliance dates for dioxin in Los Angeles River Reach 3 and Burbank Western Channel based on compliance dates for the Los Angeles River Metals TMDL rather than the Los Angeles River Bacteria TMDL.</p>

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	<p>Category 2 pollutants as those “pollutants on the State Water Resources Control Board 2010 Clean Water Act Section 303(d) List of Impaired Water Bodies or those constituents that have sufficient exceedances to be listed.” Table 3-5 indicates that the interim and final schedule milestones for dioxin are based on the dry and wet weather schedule for the LAR Bacteria TMDL. However, the LAR Bacteria TMDL is an incorrect compliance schedule source to use for dioxin because dioxin is not in the same pollutant class as bacteria. According to the Permit, pollutants are considered to be in the same class “if they have similar fate and transport mechanisms, can be addressed via the same types of control measures, and within the same timeline...” (Id. at fn 21). Dioxins do not have similar fate and transport mechanisms as bacteria and cannot be addressed by all the same control measures as bacteria. Although retention BMPs would treat for both, the ULAR EWMP does not commit to specific BMP types. Design of flow-through BMPs would likely be very different if the target pollutant is bacteria versus bacteria and dioxins.</p> <p>In the Beach Cities EWMP, indicator bacteria has been defined as a Category 2 WMPD for the DC watershed. The 2012 Permit defines Category 2 pollutants as those “[p]ollutants for which data indicate water quality impairment in the receiving water according to the State’s Water Quality Control Policy for Developing California’s Clean Water Act Section 303(d) List (State Listing Policy) and for which MS4 discharges may be causing or contributing to the impairment.” (Id. at VI.C.5.a.ii(2).) The final compliance date for dry weather bacteria (year 2025) was selected to be consistent with the draft TMDL for indicator bacteria in the SGR Estuary</p>	

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	<p>and Tributaries, and the final compliance date for wet weather bacteria (year 2032) was selected to be consistent with the DC and Greater LA and Long Beach Harbor Toxic Pollutants TMDL. However, selecting compliance schedules from TMDLs from other watersheds, or for pollutants of different classes, is inconsistent with the requirements of the Permit. The DC watershed discharges to Los Angeles Harbor, impacting the inner channel, and the San Pedro and Long Beach area beaches. Thus, a more appropriate bacteria TMDL compliance schedule for consideration in the DC watershed is the implementation schedule for the Los Angeles Harbor Bacteria TMDL, the Long Beach City Beaches and Los Angeles River Estuary Bacteria TMDL, and/or the Santa Monica Bay Beaches Bacteria TMDL.</p>	
<p>III.B.iii</p>	<p>B. Proposed Compliance Schedules are in Violation of State or Federal Law or are Otherwise Unreasonably Long</p> <p>iii. Pollutants Not in the Same Class as Those Addressed in a TMDL</p> <p>In at least one instance, Permittees establish an incorrect compliance schedule for WBPCs not addressed by a TMDL, and not in the same class as a TMDL pollutant but for which the water body is identified as impaired on the State Board's CWA section 303(d) List. For these types of pollutants, if retention of the 85th percentile, 24-hour storm event is not feasible, the EWMP must either have a final compliance deadline within the 5-year permit term or Permittees are expected to initiate development of a stakeholder-proposed TMDL and incorporate a compliance schedule consistent with the TMDL. (Id. at VI.C.2.a.ii(5).)</p> <p>The USGR EWMP states that indicator organisms</p>	<p>This comment was not raised for, nor is it applicable to, the ULAR EWMP. There were no instances of inappropriate water body pollutant combinations (WBPCs) scheduling for pollutants not in the same class as those addressed in a TMDL identified in the EWMP.</p>

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	<p>(bacteria) are the sole Group B WBPC. The USGR EWMP defines Group B pollutants as those “pollutants that are not in the same class as those addressed in a TMDL for the watershed, but for which the water body is identified as impaired on the 303(d) List as of December 28, 2012.” The USGR EWMP then proposes a 25-year schedule for bacteria compliance in order to mimic the scheduling adopted in TMDLs developed for other areas of the Basin, namely the Los Angeles River Bacteria TMDL. However, according to Permit requirements, the USGR EWMP Group must either propose a final compliance date within the 5-year term of the Permit, or initiate a stakeholder-proposed TMDL and incorporate the implementation schedule for that TMDL. Because the Regional Board recently approved a bacteria TMDL covering the SGR Watershed, at a minimum, the USGR EWMP schedule for bacteria should be consistent with the Regional Board-adopted TMDL, which proposes a 20-year schedule for compliance, as opposed to the currently proposed schedule of 25 years from the Los Angeles River Bacteria TMDL.</p>	
<p>III.B.iv</p>	<p>B. Proposed Compliance Schedules are in Violation of State or Federal Law or are Otherwise Unreasonably Long</p> <p>iv. Exceedances of RWLs Not Addressed by a TMDL</p> <p>Lastly, for exceedances of RWLs not addressed by a TMDL, the EWMP must include milestones based on measurable criteria or indicators and a schedule for achieving the milestones, and demonstrate that the RWLs will be achieved "as soon as possible." (Id. at VI.C. 5.c. iii.) The time between interim dates shall not exceed one year. Milestones shall relate to a specific water quality endpoint and dates shall relate to taking a</p>	<p>The Group does establish interim milestones for Category 3 pollutants for which the MS4 is considered to be a source in Table 3-14 of the revised EWMP. These milestones coincide with metals TMDL milestones, which the Board determined was appropriate given the nature of the watershed control measures proposed in the EWMP.</p> <p>The remaining category 3 pollutants listed in Table 3-15 of the revised EWMP that do not have a compliance schedule are pollutants for which the Group states “either MS4 discharges are not considered to be a source or the WBPC is a condition rather than a ‘pollutant’ with the potential to be</p>

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	<p>specific action or meeting a milestone. (Id. at VI.C.2.a.iii(2)(c).)</p> <p>For the ULAR EWMP, interim and final wet weather Category 3 WBPCs milestones are January 11, 2024 and January 11, 2028, respectively. The ULAR EWMP defines Category 3 pollutants are defined as those “pollutants with observed exceedances that are too infrequent to be listed, and parameters that are not considered typical pollutants.” Permittees of the ULAR EWMP do not provide any explanation for why and how this schedule meets the “as soon as possible” standard; at the very least, some level of analysis should be provided to show how Permittees arrived at this schedule. Furthermore, Permittees fail to provide interim milestones, in violation of Permit requirements.</p> <p>The USGR EWMP concludes that most of the WBPCs in Group C are of the same class as the SGR Metals TMDL WBPCs, therefore it is proposed that the Group C WBPCs be linked to compliance schedules established in the SGR Metals TMDL Implementation Plan. The final compliance deadline for SGR Metals TMDL is 2032. The USGR EWMP defines Group C pollutants as those “pollutants for which there are exceedances of RWLs, but for which the water body is not identified as impaired on the 303(d) List as of December 28, 2012.” The Group C pollutants identified by the USGR EWMP are: sulfate, chloride, alpha-endosulfan, MBAS, and lindane. However, fate and transport characteristics of these pollutants are different from that of metals, and potential control measures may be different, therefore these should not be categorized as being in the same class of</p>	<p>discharged from the MS4.” In these cases, the Group does not identify these WBPCs as water quality priorities. If available data indicates that MS4 discharges are identified as causing or contributing to exceedances for these WBPCs, the Group explicitly states that they will revise the EWMP. This is consistent with Part VI.C.2.iii of the Los Angeles County MS4 Permit, which requires that Permittees modify their EWMP so that the EWMP’s watershed control measures, RAA, and milestone schedules address these pollutants.</p>

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	<p>pollutants as those addressed in the SGR Metals TMDL. Therefore, Permittees' reliance on the implementation schedule for the SGR Metals TMDL for Group C pollutants is misplaced.</p>	
<p>III.C</p>	<p>C. Permittees' Use of the Exceedance Volume Approach is Flawed</p> <p>For the ULAR and USGR EWMPs, Permittees use a concept called "Exceedance Volume" to establish targets based on BMP capacity rather than strictly BMP load reduction. The Exceedance Volume was chosen based on an analysis of the 90th percentile 24-hour storm volume over a 10-year analysis period. The Exceedance Volume is the portion of the storm volume associated with concentrations exceeding WQBELs. Environmental Groups acknowledge that there are benefits to the Exceedance Volume metric, in particular with bacteria where concentrations are known to vary widely; however, this approach is nevertheless problematic for several reasons detailed below.</p> <p>First, in parts of the EWMPs, for example for the interim targets, load reductions are used as a measure of progress. It is assumed that these load reductions are based on the load produced from the Exceedance Volume, but this is problematic because as the EWMPs acknowledge, concentrations of pollutants may vary significantly from one storm to another. In other words, the 90th percentile storm volume may not represent the 90th percentile load.</p> <p>This issue is of particular concern since the EWMPs define the compliance strategy in terms of volumes of stormwater and non-stormwater to be managed rather than by specific project lists, and thus allow for a</p>	<p>Comment considered and incorporated as appropriate into the Board's Review Letter. Specifically, Enclosure 2 of the Review Letter (RAA comments) requested that the Group provide appropriate information and clarification to justify use of the "Exceedance Volume" approach.</p> <p>The ULAR Group adequately addressed this comment in its revised EWMP. The Group included an additional Appendix (Appendix 6-l) that provides additional RAA information. This appendix includes a comparison of Exceedance Volumes with 90th percentile loads by sub-basin and a regional validation example.</p>

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	<p>tremendous amount of flexibility with regards to project location and project type. As the two EWMPs note, “the identified BMPs (and BMP preferences) will likely evolve over the course of adaptive management...” The EWMPs note that as projects change, the EWMP Groups will demonstrate equivalency between projects. While demonstrating this equivalency is critical to the success of the Exceedance Volume approach, the EWMPs fall short of providing precise details on how this will be accomplished. Of particular concern are situations where the actual BMP type is switched, for instance, from a retention-type BMP to a flow-through BMP. Establishing equivalency in this case necessitates some translation from volume managed to actual load reduced, but as noted above, it is not clear how this would be accomplished and whether the load associated with the Exceedance Volume is appropriate.</p> <p>Further, and importantly, the Exceedance Volume approach fails to take into account differences in loading from different land uses – load reductions from BMPs tributary to primarily low density residential areas will not be equivalent to load reductions from BMPs tributary to primarily industrial land uses, for instance, regardless of whether their actual volumetric capacities are identical. If specific projects in specific locations were outlined in the EWMPs, this may not be an issue; however, as noted above, both EWMPs instead set targets of Exceedance Volume managed rather than specific project lists. Finally, because the EWMPs use the Exceedance Volume approach to set metrics for compliance rather than detailing specific projects, it is impossible to evaluate error in the proposed compliance strategy and thereby establish the degree of confidence in the</p>	

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	proposed plans to achieve compliance with water quality standards.	
III.D	<p>D. The Implementation Strategy Relies Too Heavily on the Adaptive Management Process, Which Itself Relies on Flawed and Inadequate Monitoring Programs</p> <p>Due to the fact that the ULAR and USGR EWMPs use the Exceedance Volume approach to establish a “recipe for compliance” rather than name specific projects that will be implemented, the robustness of the adaptive management process is critical to success of the approach. As noted in the previous section, a detailed methodology must be developed to establish equivalency between projects selected and volume targets, particularly in cases where flow-through, rather than retention BMPs are proposed. The adaptive management sections in both EWMPs, however, do not come close to providing the level of detail necessary to achieve these goals. These sections merely describe the need to show equivalency, while failing to actually describe how this would be accomplished.</p> <p>Another issue that is significantly related to the adaptive management process and critical to its success is the strength and adequacy of the Coordinated Integrated Monitoring Programs (CIMPs). In addition to the EWMPs, Permittees also develop CIMPs to collect water quality data and measure the effectiveness of the EWMPs. The CIMPs, therefore, is the ultimate driver for Permittees’ decisions regarding future adaptive management of their EWMPs. However, as Environmental Groups have pointed out previously, the draft CIMPs developed by the EWMP Groups suffered from a litany of flaws. Unfortunately, Permittees’ revised</p>	<p>Comment considered and incorporated as appropriate into the Board’s Review Letter. Specifically, Comment 12 in Enclosure 1 of the Review Letter requested that the Group provide further detail on the methodology for equivalency calculations. The ULAR Group adequately addressed these comments in its revised EWMP.</p> <p>Part VI.C.8 of the Los Angeles County MS4 Permit specifies provisions for the Adaptive Management process. Adaptive management is an accepted process that is used in many fields, including watershed and stormwater management. The Los Angeles Water Board has also provided additional direction to EWMP groups on the adaptive management process and the Board’s expectations for the scope of this periodic program review and updating process. The level of reliance on adaptive management in the Group’s EWMP is appropriate given the time span for program implementation.</p> <p>The comments on the CIMPs are outside the scope of the Los Angeles Water Board’s review of the EWMPs. The Environmental Groups’ comments on the draft CIMPs (letter dated 9/16/2014), some of which are also raised in this comment letter (in Appendix A) were considered during the Board’s review of the CIMPs and prior to the approval of each CIMP. The Los Angeles Water Board disagrees with the commenters that the ULAR Group’s monitoring programs are flawed and inadequate. The approved ULAR CIMP adequately addresses requirements of Attachment E of the Los Angeles County MS4 Permit. Therefore, the ULAR Group’s reliance on the CIMP as part of their adaptive management approach is appropriate and consistent with permit requirements.</p>

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	<p>CIMPs failed to address most of the Environmental Groups' concerns. Despite the deficiencies that remain in the revised CIMPs, the Regional Board Executive Officer recently conditionally approved all of the revised monitoring programs; however, the conditions are themselves insufficient because they fail to address all of the CIMP inadequacies.</p> <p>While Environmental Groups have not seen the final draft CIMPs that were submitted by the EWMP Groups pursuant to the conditional approval letters (and we reserve the right to comment on those final CIMPs once they are issued to the public), the current state of the revised CIMPs is alarming because without an adequate CIMP in place, Permittees cannot engage in a meaningful adaptive management process. The State Board has stated that the adaptive management provisions of the 2012 Permit is one of the main reasons the EWMP process can ensure the necessary rigor and accountability to effectively and timely achieve water quality standards. However, the success of the adaptive management process depends on the effectiveness of the CIMPs, therefore, at a minimum, the CIMPs must meet the substantive requirements of the Permit in order to ensure that Permittees can appropriately adapt the EWMP in response to monitoring results and make modifications only when necessary.</p>	
III.E	<p>E. There is Insufficient Analysis to Back up the Claims About What can be Achieved Through Green Streets Implementation and Regional BMPs Implemented on Privately Owned Lands</p> <p>The ULAR and USGR EWMPs rely on a tremendous amount of green streets implementation for compliance. While Environmental Groups are in favor of distributed</p>	<p>Comment considered and incorporated as appropriate in the Board's Review Letter. Specifically, Comment 6 in Enclosure 1 of the Review Letter requested that the Group provide more detail on Green Streets issues and elaborate on how these limitations will be addressed. Additionally, Comment 4 in Enclosure 1 requested that the Group provide more detail on private regional BMP implementation and</p>

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	<p>projects conceptually, practically speaking, it is unclear whether the degree of implementation proposed is achievable. We do, however, commend the EWMP Groups for discussing the need for streamlining the process of green infrastructure project implementation, but more analysis is needed to demonstrate that the amount of proposed green street projects are actually feasible and achievable. In addition, the EWMPs also rely heavily on regional BMPs implemented on privately owned lands to achieve compliance, with this portion of the “recipe” accounting for around 30% of the total capacity. However, due to the uncertainty around the ability to acquire such lands as well as the associated costs of land acquisition, the practicality and achievability of this goal is questionable.</p>	<p>identify potential alternative approaches it can pursue if projects are found to be infeasible. The ULAR Group adequately addressed these comments in their revised EWMP.</p> <p><u>Green Streets</u> In the revised EWMP, the Group acknowledges data limitations that are inherent in watershed-scale modeling of green streets and stresses the need to generate additional data during near-term planning (e.g., soil, microtopography, gutter slopes, utility conflicts, etc.) to implement the green streets in its EWMP Implementation Strategy. The Group then states that over time, the EWMP Implementation Strategy will develop into a more focused green street master plan. If near-term planning indicates that potential green street project sites are infeasible, then upstream or downstream BMP requirements will be adjusted to compensate for the lack of BMP opportunities.</p> <p><u>Private Regional BMPs</u> In the revised EWMP, the Group directly acknowledges challenges associated with implementing private regional BMPs, including exceptionally high cost and public resistance. In its discussion of implementation, the Group notes that additional control measures may be implemented to reduce the number of necessary private regional BMPs. In particular, the Group highlights potential coordination with schools and public-private partnerships. The Group also notes that there are opportunities to integrate Los Angeles River restoration efforts with implementation of private regional BMPs.</p> <p>Additional analysis is not required at this time. As implementation progresses, the Group will be required to</p>

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		<p>evaluate its assumptions and the effectiveness of green streets and feasibility of regional BMPs on privately owned land and modify their EWMP if the effectiveness or feasibility is not as assumed in the initial RAA.</p>
<p>III.F</p>	<p>F. The EWMPs Lack Sufficient Detail to Achieve Load Reductions Assumed From Institutional BMPs In all of the EWMPs reviewed by Environmental Groups, institutional BMPs are assumed to account for between 5% and 10% of the load reduction with no data to support these assumptions. These goals may be achievable but require a structure dedicated to their attainment. However, there is little evidence of the development of an institutional framework and programs to reach these levels, either in the EWMPs or, apparently, anywhere else in the jurisdiction's organizations. The mechanisms are straightforward technologically but much more complex institutionally. Applying them successfully relies on a host of actions broadly spread through the affected communities, the participation of various jurisdictional agencies and numerous agency personnel, and cooperation by many private citizens. Lacking a structure to implement them makes the assumptions questionable and requires evaluation of the consequences of not meeting the goals.</p> <p>Further, the ULAR EWMP suggests that institutional controls will be sufficient to achieve compliance with Category 2 and 3 dry weather metals WBPCs, while the USGR EWMP states that these will be sufficient to control all dry weather metals. As stated above, there is little data and little structure built into the EWMPs to provide assurance that these load reductions will be</p>	<p>Comment considered and incorporated as appropriate into the Board's Review Letter.</p> <p>The ULAR EWMP supports a 5% reduction in pollutants from institutional controls by outlining the additional minimum control measures (MCMs) it will implement in the 2012 Los Angeles County MS4 Permit.</p> <p>As part of the Technical Advisory Committee (TAC) RAA subcommittee meetings, a 5% pollutant load reduction as a result of implementing the additional requirements included in the provisions for Permittees' stormwater management programs/MCMs in the 2012 Los Angeles County MS4 Permit was determined to be reasonable.</p> <p>Aside from this 5% reduction, some jurisdictions within the Group are taking an additional 5% pollutant load reduction as a result of implementing additional institutional BMPs. For these jurisdictions, the Group has provided descriptions of the additional institutional BMPs and included timelines for implementation. For the reductions from these additional institutional BMPs, the Group must evaluate the associated load reduction assumptions through its adaptive management process.</p> <p>Stormwater management programs and MCMs have been implemented by Permittees in prior permit iterations. Hence, based on the reporting in Annual Reports, a reasonable assumption can be made that Permittees already have a</p>

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	<p>achievable through these programs. In addition, it is not clear how it was determined that a 5% or 10% reduction would be what is required to achieve compliance with a number of the metals WBPCs since zinc, copper, and lead were the only metals that were modeled. The EWMPs state that this assumption is made in part due to the infrequency of dry weather metals exceedances, but it seems that the ability for minimum control measures to address these exceedances should be more dependent on the actual magnitude of the exceedances rather than their frequency.</p>	<p>structure to implement institutional control measures including Enhanced MCMs. Requiring the ULAR Group to provide implementation details beyond what is currently in the EWMP is not required by the Permit.</p>
<p>III.G</p>	<p>G. In at Least Two Instances, the RAA's Model Calibration Regularly Diverges From Observed Values at Higher Stream Flows For the ULAR and USGR EWMPs, although the model calibration met the parameters specified in the RAA Guidelines, it seems to regularly diverge from observed values at higher stream flows. Both the ULAR and USGR EWMPs are designed around a relatively extreme condition (i.e., the 90th percentile storm), yet it is not clear whether an analysis was conducted to determine how the model would perform specifically at the stream flows expected from such a storm.</p>	<p>Comment considered and incorporated into the Board's Review Letter as appropriate. Specifically, Comment 1 in Enclosure 2 of the Review Letter directed the Group to provide additional discussion regarding under-prediction of highest flows. The ULAR adequately addressed this comment in its revised EWMP. Section 6.2.2 cites watershed features that affect hydrology calibration including debris basins, diversions, deficient pipes, and spreading grounds. The Group specifically attributes under-prediction of the higher stream flows at Santa Anita Wash to debris basins; at Compton Creek to deficient pipes; and at Wardlow Avenue to spreading ground/inter-basin transfer impacts.</p> <p>Furthermore, the Group commits to compile additional data to improve future baseline model updates through the following data sources: CIMP data; monitoring data outside of the CIMP; and operations data for impoundments within the watershed.</p>
<p>III.H</p>	<p>H. The Analysis for LID BMPs is Limited to the Consideration of Only Two Approaches: Biofiltration and Bioretention</p>	<p>Comment considered.</p> <p>Given that the permit requires that Permittees utilize, in</p>

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	<p>In all of the draft EWMPs that Environmental Groups reviewed, the analyses assume low impact development (LID) BMPs would be a 50/50 split between biofiltration (underdrained) and bioretention (not underdrained). First, these two practices are not the only LID BMPs that might be chosen for the applications, yet others received zero consideration. Second, their capabilities differ considerably. Open-draining bioretention can infiltrate and evaporate a large fraction, even all, of the influent runoff, thus greatly or even fully diminishing pollutant loadings. The best evidence is that underdrained biofiltration, as normally constructed, is limited to withholding through evaporation roughly 30% of the runoff received. Load reductions also benefit from pollutant concentration decreases but generally do not approach those achieved with open-draining bioretention.</p> <p>Furthermore, there was no examination in the EWMPs of the feasibility of reaching 50% bioretention capability, or, alternatively, of surpassing it and doing better with load reduction. While the best procedure would be to conduct that examination, as well as to consider other LID BMPs, a substitute in the absence of these steps is to conduct a sensitivity analysis to examine the implications of other arrangements (e.g., a 70/30 or 30/ 70 split) and see how the results change. The purpose in this case would be to add assurance that the LID BMPs proposed would actually reach the target load reductions (TLRs) if field conditions ultimately dictate a different scenario than represented by the primary model assumption.</p>	<p>order of priority, bioretention and then biofiltration BMPs in the Planning and Land Development provisions, it is reasonable that the EWMP group similarly focuses its watershed analysis on these two broad categories of LID BMP approaches in its EWMP. In addition, biofiltration and bioretention BMPs are among the most effective for a wide range of pollutants based on data in the WERF/ASCE database. Further, choosing these LID BMPs to achieve the water quality requirements of the permit is at the discretion of Permittees. Apart from the RAA in-depth analysis of other LID BMP approaches is not required by the permit.</p> <p>Table 6-9 of the ULAR draft and revised EWMPs include the “Key Design Parameters” used for the LID BMP Category. For LID under an “Ordinance”, “Planned”, or “on Public”; the design parameters are: “Bioretention/Biofiltration sized to capture 85th percentile runoff from parcel. Underdrains required if subsoil infiltration rate less than 0.3 in/hr.”</p> <p>The above parameters are reasonable assumptions since the permit’s Planning and Land Development Program incorporates the 85th percentile runoff volume in its requirements and the permit’s Bioretention / Biofiltration Design Criteria (Attachment H) specifies that infiltration BMPs be limited to projects sites where there is a demonstrated infiltration rate of 0.3 inch per hour.</p>
III.I	<p>I. The Assumptions Regarding Redevelopment are Inadequate For the NSMBCW and Beach Cities EWMPs, achieving</p>	<p>The comment on TLRs is not applicable to the ULAR EWMP because the EWMP does not use this approach.</p>

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	<p>TLRs further relies on BMP installation during redevelopment: (1) from 2003 to the present – as prescribed by the 2001 MS4 Permit’s Standard Urban Stormwater Management Program (SUSMP) provisions; and (2) from the present forward – according to the 2012 Permit’s LID requirements. However, the Permittees did not conduct an examination of actual achievements of stormwater treatment BMPs in the past. For various reasons, regulatory requirements are usually not completely fulfilled. Furthermore, there was no particular attention given to an enhanced institutional framework and programs to advance application of the present Permit requirements. As with the assumptions regarding programmatic BMPs and residential incentives, lacking verification of historical performance and a solid structure to advance future implementation makes the assumptions uncertain and requires appraisal of the repercussions of that uncertainty.</p> <p>Moreover, Permittees’ reliance on the redevelopment rates used in the EWMPs lacks justification. For example, in the Beach Cities EWMP, BMPs added through redevelopment, in the past and projected in the future, were based on redevelopment rate data from the Cities of Hermosa Beach and Manhattan Beach and, otherwise, from the Los Angeles region. There is little explanation of how the specific city rates were obtained, and no explanation at all for the regional ones. On the presumption that they are statistical means over some period, they have some statistical variance, particularly because the period over which they were likely to be derived experienced substantial economic fluctuations inevitably affecting redevelopment. This variance is one more source lending uncertainty to predictions that</p>	<p>However, regarding redevelopment rates, the ULAR EWMP utilizes growth rates reported by the City of Los Angeles. This is a reasonable assumption for the EWMP’s RAA.</p> <p>To address the associated uncertainty, the Group must evaluate this assumption through its adaptive management process and modify its EWMP, if necessary. Furthermore, the Group must report development and re-development projects through its annual report.</p>

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	<p>should be quantified and incorporated in the overall potential error analysis. For the other three EWMPs that Environmental Groups reviewed, BMPs added through redevelopment, in the past and projected in the future, were based on redevelopment rate data from the Los Angeles region. Again, there is no explanation of how these rates were obtained, and as explained above, the statistic variance is problematic.</p>	
<p>III.J</p>	<p>J. In at Least Two Instances, There are Several Potential Sources of Error Associated with the Data Underlying the Model Calibration</p> <p>In the NSMBCW and Beach Cities EWMPs, there are several potential sources of error associated with the data underlying modeling, with no quantitative analysis of these sources and the associated level of certainty in the forecasts of load reductions and BMPs needed to accomplish them. Potential error sources include:</p> <ul style="list-style-type: none"> • For the NSMBCW EWMP, the model flow calibration was rated as “very good” according to the Regional Board’s RAA Guidance, but still has associated potential error, as evident in the deviation of points from the diagonal line in Figure 10. The same data was used in the model flow calibration in the Beach Cities EWMP, and the calibration was also rated as “very good” according to the Regional Board’s RAA guidance, but similar to the calibration in NSMBCW’s EWMP, has associated potential error, as evident in the deviation of points from the diagonal line in Figure 2-9 for the Santa Monica Bay (SMB) watershed and Figure 3-4 for the DC watershed. These dispersions should be quantified (in terms of confidence limits or some 	<p>Comment not raised for, nor is it applicable to, the ULAR EWMP.</p>

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	<p>other statistical measure of the excursion of model predictions from measured data) and taken into account in an overall analysis of the level of certainty in the model predictions and compliance demonstration.</p> <ul style="list-style-type: none"> • For the NSMBCW EWMP, the model water quality calibration is not as “good” as the flow calibration. Environmental Groups do not agree with the EWMP’s conclusion that Figure 11 portrays “very good” agreement. The distributions of modeled versus measured fecal coliform measurements actually deviate fairly substantially, especially in the higher portion of the data range. Again, this dispersion should be quantified and included in the overall certainty analysis. • In Beach Cities’ EWMP, there was no model water quality calibration for the SMB watershed because of lack of data for the relevant WBPC (fecal coliforms). The EWMP mentions possible calibration when CIMP data accumulate, but it should firmly commit to doing so. For the DC watershed, water quality calibrations were performed for fecal coliforms and total zinc, portrayed in Figures 3-5 and 3-6. The fecal coliform calibration is fairly good, but the zinc calibration is not. Especially for zinc, this dispersion should be quantified and included in the overall certainty analysis. • Neither EWMP directly models expected compliance with the bacteria exceedance day limits in the TMDL. Instead, a relationship was developed between fecal coliform loadings and exceedance days, so that the latter can be 	

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	<p>estimated from a model prediction of the former variable. Figure 12 and Figure 2-10 present the relationship, a statistical regression equation, for the NSMBWC and Beach Cities EWMPs, respectively. The R2 value presented on the graphs indicates that loading explains 83% of the variance in exceedance days. While this represents a good relationship, it is not perfect and has potential error associated with it. It is also a product of only seven data points, and a relatively small data set itself spreads the confidence interval associated with a predictive relationship. As with the other potential error sources discussed, this one too should be quantified and brought into the overall certainty analysis.</p> <ul style="list-style-type: none"> • When it was necessary to convert Escherichia coli (E. coli) measurements to fecal coliforms (FC), a ratio of E. coli/FC = 0.85 was assumed. A U.S. Geological Survey study found substantial variation in the ratio and quantified confidence limits. This is an additional potential source of error that should be taken into account in forecasting load reductions and specifying BMPs sufficient to provide a low risk of not meeting target reductions. 	
III.K	<p>K. The Margins for Error in Reaching TLRs as a Result of BMP Implementation are Extremely Small As explained above, for the NSMBCW and Beach Cities EWMPs in particular, there are a number of assumptions and potential error sources embedded in the analyses that create uncertainty in the predictions of load reductions achievable with the BMPs thought to be in place and proposed for future implementation.</p>	<p>Comment not raised for, nor is it applicable to, the ULAR EWMP.</p>

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	<p>For NSMBCW, the Permittees did not make any attempt to quantify these uncertainties and their effects on the demonstration of compliance. Table 27 summarizes that demonstration. Its last two columns show cumulative fecal coliform load reductions (resulting from all BMPs) and TLRs. Comparison of the data in these two columns shows very small margins for error in reaching the TLRs forecast to result from their implementation. For non-zero TLRs, the difference between load reduction provided and TLRs for the various analysis regions averages only 1.98%. As discussed above and shown in the table, substantial contributions to load reductions are from assumed 5% accruing from programmatic BMPs, 10% participation in home downspout disconnection, and BMPs already installed during redevelopment. The fifth column of Table 27 shows the load reductions estimated to occur as a result of downspout disconnection and redevelopment BMPs. The overall average is 4.91%. Thus, the unexamined assumptions together are credited for about 10% loading reduction. From the perspective of averages, if they fall short by just 2%, the very small 1.98% compliance margin will vanish.</p> <p>Similarly, for Beach Cities, the Permittees made no attempt to quantify the uncertainties created by the EWMP's assumptions and potential error sources and their effects on the wet weather RAA demonstration of compliance. Tables 2-16 and 3-12 summarize that demonstration for the SMB watershed and DC watershed, respectively. Columns toward the right side of each table show cumulative pollutant load reductions (resulting from all BMPs) and TLRs. Only two of 18 SMB</p>	

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	<p>watershed analysis regions were modeled to have fecal coliform TLRs. Comparison of the data for these two regions in Table 2-16 shows very small margins for error in reaching the TLRs forecast to result from BMP implementation – only 1% in one case and 4% in the other. As discussed above and shown in the table, substantial, and questionable, contributions to loading reductions are from assumptions: (1) 5% accruing from programmatic BMPs, (2) 10% participation in home downspout disconnection, (3) BMPs already installed during redevelopment, and (4) assumptions that Caltrans and industrial areas will achieve their permit requirements. In the case with only 1% margin between load reduction (46% of base load) and TLR (45% of base load), these highly uncertain sources of reduced pollutant loadings are assumed to account in total for 11% of the 46%. In the case with 4% margin between loading reduction (50% of base load) and TLR (46% of base load), these highly uncertain sources of reduced pollutant loadings are again assumed to account in total for 11% of the 50%.</p> <p>The DC watershed has zinc, copper, and fecal coliform WBPCs. Only the Redondo Beach and Manhattan Beach portions of the watershed were modeled for the wet weather RAA. The Torrance part was not appropriately modeled or subjected to an adequate RAA, because beyond some non-structural measures, Torrance has committed only to catch basin inserts in a fraction (less than one-third) of its drain inlets. Because estimated load reductions are associated only with individual inserts, the estimates cannot be applied to the entire analysis region. Failure to perform an adequate RAA for a significant part of the watershed is a violation</p>	

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	<p>of Permit requirements, and undermines the validity of the RAA and the EWMP.</p> <p>For the Redondo Beach and Manhattan Beach portions of the DC watershed, Table 3-12 indicates the final copper and fecal coliform TLRs to be met handily, but the final zinc and interim fecal coliform TLR achievements to be marginal (0-0.1% difference in estimated load reduction and the respective TLRs for interim fecal coliforms and 3% for zinc). The questionable assumptions regarding programmatic BMPs, home downspout disconnection, BMPs already installed during redevelopment, and the Caltrans and industrial permit compliance are credited for 20% of the 79% loading reduction forecast for zinc (against a TLR of 76%), with 6% from the latter exceptionally doubtful assumption. Thus, there is no real margin, the situation also existing for the interim fecal coliform requirements. The healthy margin for copper (23%) is heavily influenced by brake pad reduction, which is thus crucial to achieve. The margin for the final fecal coliform TLR is much greater (41%) and accounted for in large measure by new regional and distributed BMPs, the completion of which is thus also crucial.</p> <p>The larger point underlying all of the discussion in this section is that, as pointed out above, there are more potential sources of error (beyond the assumptions Environmental Groups have pointed out thus far). In the face of all this uncertainty, it is highly unlikely that the generally extremely slim margins allowed will lead to compliance. The responsible and essential procedure is to quantify all of these potential sources and determine what BMPs are necessary to give some set level of</p>	

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	assurance (e.g., 90%) of achieving compliance.	
III.L	<p>L. In at Least Two Instances, Permittees Fail to Consider the Possible Intermingling of Privately Owned Stormwater Infrastructure Within the Full MS4 System</p> <p>The analyses in the NSMBCW and Beach Cities EWMPs were based entirely on publically owned drainage outfalls, without consideration of intermingling of privately owned stormwater infrastructure with the MS4 system. The MS4 system is defined by the federal regulations as “a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains)... [o]wned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created to or pursuant to state law) including special districts under state law such as a sewer district, flood control district or drainage district...” Comingled “public” and “private” stormwater, therefore, is regulated by the Permit, and is the responsibility of the municipal Permittees. Thus, the NSMBCW and Beach Cities EWMPs illegally exclude the analysis of a significant source of pollutant loads to receiving waters, and thereby limit the analysis of reductions required on that basis. Without inclusion of all MS4 discharges, the EWMPs cannot ensure compliance with RWLs or TMDL-specific limitations, and therefore do not comply with the requirements of the 2012 Permit.</p>	<p>Comment considered, although not specifically directed to the ULAR EWMP. Federal regulations at 40 CFR section 122.26(b)(8) define a MS4 as the following:</p> <p><i>Municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):</i></p> <ul style="list-style-type: none"> • <i>Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;</i> • <i>Designed or used for collecting or conveying storm water;</i> • <i>Which is not a combined sewer; and</i> • <i>Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.</i> <p>By its own terms, this definition does not include privately owned stormwater infrastructure. As such, privately owned stormwater infrastructure is not regulated by the Los</p>

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		<p>Angeles County MS4 Permit. However, to the extent that there are discharges from privately owned infrastructure to the Permittees' MS4s, those discharges are regulated by the Los Angeles County MS4 Permit and the Permittees have provided documentation that they possess the legal authority to control such discharges through their MS4s, consistent with Part VI.A.2 of the permit. As such, the EWMP addresses runoff from private property that enters the Permittees' MS4.</p>
<p>III.M</p>	<p>M. In at Least One Instance, No Analysis of Standards Applicable to Discharges to ASBS are Included, and Existing Data for Discharges to ASBS are Not Included in the Modeling Exercise or the EWMP</p> <p>Beyond referencing the draft Compliance Plan and draft Pollution Prevention Plan (ASBS Plans), the NSMBCW EWMP ignores the standards applicable to the receiving waters, designated as Areas of Special Biological Significance (ASBS), as well as the data collected in the receiving waters pursuant to the State Board's ASBS program. The NSMBCW EWMP's approach to ASBS discharges is inadequate for at least two reasons:</p> <ol style="list-style-type: none"> 1) The draft ASBS Plans are inadequate and do not meet the requirement of either the ASBS Exception or the 2012 Permit; 2) The EWMP applies the wrong water quality standards, and ignores extensive available sampling data, rendering its analysis incomplete and inconsistent with Permit requirements. <p>NRDC and Los Angeles Waterkeeper submitted comments on the draft ASBS Plans detailing their inadequacies in January 2015. In summary:</p>	<p>Comment not raised for, nor is it applicable to, the ULAR EWMP. The ULAR EWMP Area does not include any ASBS.</p>

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	<ul style="list-style-type: none"> • The ASBS Plans fail to address non-stormwater discharges, which are strictly prohibited into the ASBS. Dry weather discharges were observed by Permittees 73 times in 2012 and 2013, even with reconnaissance on only eight dates; yet, the ASBS Plans propose nothing beyond existing outreach and education programs. • The ASBS Plans improperly exempt pipes smaller than 18 inches diameter from meaningful pollution control. This arbitrary and illegal definition eliminates dozens of MS4 discharge pipes from control. • Receiving water sampling conducted pursuant to ASBS requirements demonstrate alteration of natural water quality concerning selenium, total polyaromatic hydrocarbon, and mercury. Although end-of-pipe sampling demonstrates exceedances of Ocean Plan Instantaneous Maximum limits for ammonia and a number of metals, the ASBS Plans neither acknowledge these exceedances, nor propose to meet compliance, either by meeting Ocean Plan limits or reducing baseline pollutant discharges by at least 90%. <p>Rather than relying on these flawed plans, the NSMBCW EWMP must conduct its own RAA, based on all available data, and the applicable standards. Because the ASBS was the focus of regulatory attention at the State Board level for a number of years, considerable data is available. The State Board collected outfall and receiving water data in developing the ASBS Exception. Under the terms of the Exception, Los Angeles County</p>	

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	<p>and Malibu collected outfall and receiving water data beginning in 2013. However, the NSMBCW EWMP nowhere references this data – data collected by the municipalities conducting the EWMP analysis – and apparently failed to include the data in the modeling exercise. Further, the ASBS Exception requires that dischargers develop plans to achieve either: 1) Ocean Plan Instantaneous Maximum limits at all discharge points, or 2) 90% reduction in pollutant loads based on an articulated baseline calculation. Compliance is required within six years, or 2019. Again, the NSMBCW EWMP fails completely to consider these applicable standards, or the compliance deadline, as set out in the ASBS Exception.</p> <p>Because the NSMBCW EWMP effectively eliminates consideration of ASBS data, or ASBS regulatory requirements, it fails to comply with state and federal law, and the requirements of the 2012 Permit.</p>	
III.N	<p>N. There is Insufficient Data to Demonstrate Reasonable Assurance of Compliance with Applicable Dry Weather Permit Limits</p> <p>For NSMBCW, the EWMP assumes reasonable assurance is demonstrated for a compliance monitoring location (CML) if any one of four criteria is met, namely:</p> <ul style="list-style-type: none"> • Diversion or infiltration eliminates all dry weather discharge, or disinfection is provided and is effective (claimed for two CMLs); • There are no jurisdictionally owned MS4 outfalls (claimed for eight CMLs); • If all bacteria exceedance day requirements are met in four of the past five years and in the last two years (claimed for one CML); and/or • If dry weather discharges have been eliminated 	Comment not raised for, nor is it applicable to, the ULAR EWMP.

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	<p>(claimed for 18 CMLs).</p> <p>Two of these claims are very questionable. Given the EWMP’s failure to consider the interrelationship between private and public drainage, the second criterion and the claims asserted regarding it are problematic. Concerning the fourth criterion and the extensive claims associated with it, outfalls were screened on only eight dates in 2014 and 2015 for the EWMP effort. There is no detail on the observations, only the inclusion of a note to Table 29 stating that the associated column entry of “yes” indicates that no dry weather flows were present. However, the data collected in the ASBS assessment and summarized above shows extensive dry weather discharges occurring in the ASBS portion of the study area.</p> <p>For the SMB watershed, the Beach Cities EWMP assumes reasonable assurance is demonstrated for a CML if any one of three criteria is met, namely:</p> <ul style="list-style-type: none"> • Diversion or infiltration eliminates all dry weather discharge, or disinfection is provided and is effective (claimed for eight CMLs); • There are no jurisdictionally owned MS4 outfalls (claimed for two CMLs); and/or • If dry weather discharges have been eliminated (not determined). <p>The claim relative to the second criterion is questionable due to the EWMP’s lack of consideration of the interrelationship between private and public drainage. Additionally, no screening has been conducted to apply the third criterion. As a result, the dry weather RAA could</p>	

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	<p>not be completed for three of 12 CMLs. An incomplete RAA is a violation of Permit requirements.</p> <p>The DC watershed did not receive even this level of attention. The analysis is brief, qualitative, and unconvincing. Its primary basis is "... education, enforcement, and behavioral modification ..." in Torrance and, in each city, water conservation regulations. The only substantive provision is building two regional BMPs in Redondo Beach and Manhattan Beach, installed primarily for wet weather control but also available for dry weather service. This single feature does not constitute a full RAA.</p>	
III.O	<p>O. In at Least Two Instances, There is Very Little to No Discussion on How Trash Reduction Requirements will be Met</p> <p>Both the NSMBCW and Beach Cities EWMPs are very weak on specifying how trash reduction requirements will be met. The plans say no more than there will be phased catch basin retrofits to meet the 20% per year reduction targets. Moreover, the plans give no information, or any sign of thinking about, such subjects as: (1) what trash source controls might be brought to bear on the problem, (2) the equipment that will be used in the retrofits, (3) the rate at which it must be installed to meet the targets, (4) where and when it can be most strategically placed, and (5) what options there are if targets are not met.</p>	Comment not raised for the ULAR EWMP.
III.P	<p>P. The Claims About Removal Efficiencies by Catch Basin Inserts are Questionable</p> <p>Appendix B of the Beach Cities EWMP covers the RAA for the DC watershed within the city of Torrance. The central feature of Torrance's proposed contribution to meeting TLRs is the installation of inserts in less than</p>	Comment not raised for, nor is it applicable to, the ULAR EWMP.

Comment No.	NRDC, LA Waterkeeper, and Heal the Bay Comment	Los Angeles Water Board Response
	<p>one-third of the catch basins in the subwatershed. The appendix cites insert manufacturers' literature, an unreliable gauge of performance without independent verification, and a few studies to claim questionably high catch basin insert removal efficiencies for the pollutants of interest.</p> <p>Appendix B presents what it terms a "literature review" in its own Appendix B. However, this latter appendix omits some studies cited in the text and contains only some manufacturers' "fact sheets" and one very long report of a study completely concerned with removal of oil and grease, not one of the WBPCs. The items are just pasted into the appendix with no assessment of their contents and no development and justification of conclusions used in the RAA. It is thus not a literature review at all. The review also omits studies not supporting its claims. A particular example is the Caltrans BMP Retrofit Pilot Program. This study found two different inserts to provide only 0-7% mass loading reduction efficiencies for copper, lead, and zinc. The inserts also needed substantial maintenance attention, including during storms; i.e., they did not operate passively and unattended. With this experience, Caltrans did not adopt inserts as an accepted BMP.</p> <p>An additional weakness of the Torrance RAA coverage of drain inlet inserts is citing performance in terms of pollutant concentration reduction efficiency, instead of mass loading reduction efficiency as used by Caltrans. As has been widely discussed in the literature, percentage concentration reduction efficiency is a misleading concept. This measure can be manipulated by feeding high concentrations into the unit and</p>	

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	measuring a respectable percentage reductions but still having relatively high concentrations in the effluent.	

Los Angeles Water Board Response to Specific Written Comments by Joyce Dillard, dated August 30, 2015, on the Upper Los Angeles River EWMP

Comment No.	Joyce Dillard Comment	Los Angeles Water Board Response
1	<p style="text-align: center;">EWMP IMPLEMENTATION COSTS AND FINANCIAL STRATEGY</p> <p>ES.1.6 EWMP Implementation Costs and Financial Strategy states:</p> <p><i>The capital costs to address Water Quality Priorities by 2037 is estimated at over \$6.0 billion, with total operations and maintenance costs exceeding \$210 million per year once fully implemented (see table below).</i></p> <p><i>Expenditures for the EWMP Implementation Strategy will be coordinated with other regional efforts to improve habitat, promote greenways and increase access to the LA River and its tributaries. In order to garner community support for financing the costs, the multi-benefits of the LID, green streets and regional projects will be quantified including improved aesthetics, increased recreational opportunity, water supply augmentation and climate change resiliency</i></p> <p style="text-align: center;">COMMENTS</p> <p>There is no Financial Strategy except a dependence to take advantage of the US Army Corps LA River Ecosystem Restoration Feasibility Study and pending legislation for greenways</p>	<p>Comments considered.</p> <p><u>Financial Strategy</u></p> <p>Comments were included in the Los Angeles Water Board’s Upper Los Angeles River (ULAR) EWMP Review Letter, dated October 21, 2015, directing the ULAR Watershed Management Group to provide a prioritization of specific financing strategies; to update the financial strategy with any new information regarding the Group’s efforts and the challenges related to securing funding; and to specify sources of funding for near-term projects and/or identify their process for securing this funding. In response, the revised EWMP included additional information and specificity in Section 9 EWMP Implementation Costs and Financial Strategy. Overall, Section 9 of the ULAR EWMP adequately discusses the Group’s financial strategy and meets the permit requirement.</p> <p>Part VI.C.1.g.ix of the Los Angeles County MS4 Permit requires EWMP groups to “ensure that a financial strategy is in place.” The permit does not require that each element of the financial strategy is fully developed before the Board can approve an EWMP.</p> <p>Further, it must be noted that the Los Angeles Water Board recognizes the sizable investment that Permittees will need to comply with the EWMPs and has committed to supporting, as it is able, Permittees’ efforts to secure funding. Since submittal of the draft EWMPs, and in response to concerns raised regarding the cost of EWMP implementation, the Board has held and invited Permittees and other stakeholders to attend two additional workshops on the proposed EWMPs on November 5, 2015 and March 3, 2016. The costs of EWMP implementation were a central topic of both workshops. In particular, the November 2015</p>

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	<p>surrounding the LA River. The USACE study is unfunded and estimated at \$1.4 Billion.</p> <p>LID, Green Streets and Regional Projects are to be quantified, or in other words, have no financial strategy.</p> <p>Regional Projects on Private Land are 31% of the implementation with no sources identified.</p> <p>LID Ordinances are 14% of the implementation and the remaining LID strategies are 10%.</p> <p>Green Streets are 30% of the implementation and involves the area of extensive Bioretention and Biofiltration through subwatersheds. State highways are not delineated and categories of streets are not defined. Authorities are not cited.</p> <p>Public Health inspections and costs are not addressed as those costs are borne by the inspecting agency.</p> <p>MILESTONE Capital Costs are \$6,097,870,000. Operation and Maintenance costs are \$3,043,120 through the 2037 compliance period. This Permit, however, expires December 28, 2017.</p> <p>It is not clear how Storage Costs are addressed. The IMPERVIOUS SURFACE is: 2,464,437,240 square feet producing 802,984,628,584,512 gallons of water.</p> <p>No Circulation Element facts are presented and we</p>	<p>workshop included a staff presentation on cost considerations and a focused “funding strategies panel” that included presentations from the authors of the <i>Stormwater Funding Options</i> report prepared for the California Contract Cities Association and the League of California Cities (Los Angeles County Division); the City of Los Angeles; Heal the Bay; and the State Water Board Office of Chief Counsel. Public comments were also heard during this workshop. The Los Angeles Water Board also coordinated with USEPA Region IX to host an “East Coast/West Coast Knowledge Exchange” on local stormwater financing strategies in February 2015, which was attended by many Permittees participating in an EWMP.</p> <p><u>Authorities</u> Regarding authorities, Section 2 of the revised EWMP discusses legal authority. Additionally, Appendix 2.A provides legal authority certifications from each Group member.</p> <p><u>Public Health</u> The comment concerning public health inspections and costs is unclear; however public health and safety has been considered.</p> <p>A key purpose of the ULAR EWMP is to implement projects to improve public health related to water recreation and fish consumption. The County Department of Public Health has been a long-standing partner in notifying the public of the health risks of recreating in waters contaminated by elevated levels of bacteria. Potential vector control issues were discussed with local vector control district representatives and addressed in certain sections of the permit.</p> <p>Also, stormwater structural BMPs that may be implemented as a result of the ULAR EWMP may require discretionary approval subject to review under the California Environmental Quality Act</p>

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	<p>have no idea who has the Mineral Rights, Groundwater Rights or Pipeline Leases. The area is adjudicated in two basins-Upper LA River and Central Basin. There are sections that may not be covered by those adjudication. It is unclear as to the amounts of allowable groundwater extraction.</p>	<p>(CEQA). Public agencies responsible for carrying out or approving stormwater structural BMPs are identified as the lead agency. The environmental review required imposes both procedural and substantive requirements. At a minimum, the lead agency must adhere to the consultation and public notice requirements set forth in the CEQA Guidelines, make determinations whether the proposed stormwater structural BMP is a “project”, and if so, conduct an initial review of the project and its environmental effects. The lead agency must identify and document the potential environmental impacts of the proposed project in accordance with CEQA, (Public Resources Code Section 21000 et seq.), and the CEQA Guidelines (Title 14 of the California Code of Regulations, Section 15000, et seq.).</p> <p><u>Permit Expiration Date</u> The permit’s Watershed Management Program provisions require that EWMPs achieve applicable water quality-based effluent limitations outlined in Part VI.E and Attachments L through R pursuant to the corresponding compliance schedules, and do not cause or contribute to exceedances of receiving water limitations in Parts V.A and VI.E and Attachments L through R.</p> <p>For the Los Angeles River, Attachment O of the permit includes compliance deadlines after 2017, including a March 23, 2037 deadline for the <i>Los Angeles River Watershed Bacteria TMDL</i> (Attachment O, Part D), which the EWMP must address.</p> <p>Although the permit does expire on December 28, 2017, the compliance deadlines from Los Angeles River Watershed TMDLs will be included in future renewals of the permit and will therefore remain applicable to Permittees participating in the Upper Los Angeles River EWMP.</p> <p>Furthermore, the terms and conditions of an expired permit</p>

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		<p>continue in force until the effective date of a newly issued permit.</p> <p><u>Storage Costs</u> The Los Angeles Water Board does not understand the commenter's reference to storage costs and cannot respond to this comment.</p> <p><u>Circulation Elements, Rights, GW Extraction</u> The Los Angeles County MS4 Permit regulates discharges of storm water and non-storm water from the MS4, which extends throughout the cities' and unincorporated County's land areas. The EWMP proposes regional and distributed projects to address pollutants in MS4 discharges, including multi-benefit regional projects involving stormwater capture. Potential water rights issues, such as adjudication and groundwater extraction, are outside the scope of the Board's review of the EWMPs. By approving the EWMP, the Board is not granting any water rights to the EWMP Group. To the extent necessary, separate processes would take place concerning these issues.</p> <p>In addition, as these projects are implemented, implementation details pertaining to circulation elements related to transportation, mineral rights, groundwater rights, and pipeline leases will be evaluated and addressed by the Permittees through other approvals and processes, as appropriate. However, these issues are outside the scope of the review and final determination regarding the EWMP.</p>
2	<p>FINANCIAL STRATEGIES</p> <p>9.3 Financial Strategies states:</p> <p><i>The costs to implement the EWMP will require orders of magnitude increases in stormwater</i></p>	<p>Comments considered.</p> <p><u>Consolidated Annual Financial Report</u> Regarding the comment alleging that, "the permit goes beyond the sewer system into streets and land," the Los Angeles County MS4 Permit regulates discharges of storm water and non-storm water</p>

Comment No.	Joyce Dillard Comment	Los Angeles Water Board Response
	<p><i>program funding. The capital and operating costs for EWMP control measures are large and will span decades. Expenditures for the EWMP Implementation Strategy will need to be coordinated with other regional efforts to improve habitat, promote greenways and increase access to the LA River and its tributaries. In order to garner community support for financing the costs, it will likely be necessary to quantify the multi-benefits of the LID, green streets and regional projects including improved aesthetics, increase recreational opportunity, water supply augmentation and climate change resiliency. The financial strategy to fund the LID, green streets and regional projects in the EWMP will require a coordinated, regional approach. It will be important for each jurisdiction to have the opportunity to customize the financial strategy to the preferences of its community. As such, the financial strategy presented in this EWMP outlines a set of multiple approaches that allows each jurisdiction to consider and select the strategies that best fit their specific preferences. The detailed financial strategy for EWMP costs will be highly dependent and vary by jurisdiction.</i></p> <p style="text-align: center;">COMMENTS</p> <p>As a sample, the City of Los Angeles CONSOLIDATED ANNUAL FINANCIAL REPORT (FY June 30, 2015) requires disclosure under NOTES TO BASIC FINANCIAL STATEMENT:</p>	<p>from the municipal separate storm sewer system (MS4), which extends throughout the cities' and unincorporated County's land areas. The requirements of the permit, and the control measures proposed for implementation in the EWMP, are necessary to address pollutants in MS4 discharges.</p> <p>Furthermore, Permittee efforts to fund EWMP implementation that involve increases in fees or taxes will, as appropriate, require voter approval or separate public notification process (e.g., Proposition 218 (1996)).</p> <p><u>Cap and Trade</u> The Board is not aware of any current cap and trade approach between point source discharges regulated under the NPDES program, including MS4 discharges, within the region. Water quality trading is discussed conceptually in Section 9.3.1 of the ULAR EWMP as a potential innovative funding strategy; however a program has not been developed. The Group notes that there are significant technical, administrative, and legal undertakings to establish such a program.</p> <p>Regarding the discussion in the LA Business Council report about a "stormwater recapture credit program," stormwater capture is an effective means of reducing or eliminating discharges of pollutants to waterbodies. A credit program within a subwatershed area, where stormwater is captured in areas where there are opportunities for capture, to offset stormwater runoff from other areas within the same subwatershed, can be a reasonable approach that is supported by the Los Angeles County MS4 Permit. If such an approach is utilized in the future, it may have to go through separate approvals and associated public processes.</p>

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	<p>Total Maximum Daily Loads (TMDLs) <i>The USEPA and the LARWQCB are required to develop TMDLs for impaired water bodies. Various watersheds in the Los Angeles area have water body segments that are listed as impaired due to a variety of pollutants. Although some TMDLs have already been released, additional TMDLs will be under development and compliance with both existing and new TMDLs will continue into the next decade. At this time, it is difficult to predict the full impact of TMDLs on the National Pollutant Discharge Elimination System (NPDES) effluent limits at the City's four water reclamation and wastewater treatment plants. In addition, the proposed Greater Los Angeles County Municipal Separate Stormwater Sewer Systems (MS4) permit, adopted by the LARWQCB in November 2012, contains provisions that require compliance with all the adopted TMDLs. It is expected that significant capital improvements funded by Sewer may be required to comply with the TMDLs and their resulting impact on the City's NPDES permits.</i></p> <p>This statement discloses Sewer funds as the source for "significant capital improvements." This permit goes beyond the sewer system into streets and land and the taxpayer has not been notified of the tremendous expected costs.</p> <p>Stormwater Capture Credit or Cap and Trade was</p>	

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	<p>mentioned in the LA Business Council report LA'S NEXT FRONTIER: CAPTURING OPPORTUNITIES FOR NEW HOUSING, ECONOMIC GROWTH, AND SUSTAINABLE DEVELOPMENT IN LA RIVER COMMUNITIES:</p> <p><i>Later, we explore a number of innovative financing tools that can be employed to pay for residential, commercial, and infrastructure development in river communities. Our analysis places special emphasis on two promising financing tools: value capture and tax increment financing facilitated through Enhanced Infrastructure Financing Districts, and a new stormwater recapture credit program built, in part, on the principles of California's groundbreaking carbon cap-and-trade program. Properly implemented, this stormwater program will encourage more efficient investments in stormwater recapture while meeting or exceeding retention goals, will reduce the costs of development, and will generate additional public revenues for community reinvestment. We include recommendations for how to "make the market" and fund the public purchase of stormwater credits from early-adopters, thereby establishing the program as a proven marketplace and ensuring its future sustainability.</i></p> <p>The Board has no legal authority over a Cap and Trade scheme.</p>	
3	Reasonable Assurance Analysis (RAA)	Comments considered.

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	<p>Section 6 Reasonable Assurance Analysis (RAA) states:</p> <p><i>Permit prescribes the RAA as a quantitative demonstration that control measures will be effective, the RAA also uses a modeling process to identify and select potential control measures to be implemented by the EWMP. WMMS is specified in the 2012 MS4 Permit as an approved tool to conduct the RAA. LACFCD, through a joint effort with U.S. Environmental Protection Agency (USEPA), developed WMMS specifically to support informed decisions for managing stormwater.</i></p> <p><i>The RAA demonstrates the calibrated modeling system is able to accurately predict flows and pollutant concentration in the LA River watershed. The RAA was developed based on complying with the applicable criteria for “limiting pollutants” during 90th percentile storm conditions. Limiting pollutants are the pollutants that drive BMP capacity (i.e., control measures that address the limiting pollutant will also address other pollutants).</i></p> <p style="text-align: center;">COMMENTS</p> <p>The Modeling Systems offered in the Permit are:</p> <ul style="list-style-type: none"> - Watershed Management Modeling System (WMMS) 	<p><u>WMMS</u> WMMS is freely available to download from the Los Angeles County Department of Public Works website.</p> <p>Regarding capital and operations & maintenance (O&M) cost estimates, Table 6-10 of the EWMP shows the cost functions used to estimate 20-year life cycle costs (including O&M costs) for BMPs. These functions are based on WMMS cost functions and information from interviews with maintenance professionals from municipalities in Southern California.</p> <p>As shown in Section 6.4, the Group considers cost-effectiveness in its optimization and selection of BMP solutions for the EWMP area. However, the permit does not require model comparison based on capital costs and operations and maintenance.</p> <p>The Group's planning level BMP cost estimation outlined in Table 9-1 includes formulas for capital costs and annual O&M costs. These formulas, where appropriate, are based on the area of the BMP footprint or the volume of the BMP; and are presented for various stormwater retention BMPs including bioretention (with and without underdrain) and regional projects. Section 9.1 discusses what is covered by these cost functions.</p> <p>Further detail on cost functions in WMMS can be found in the <i>Phase II Report: Development of the Framework for Watershed-Scale Optimization Modeling</i> (http://dpw.lacounty.gov/wmd/wmms/docs/Phase_II_Report_FINAL_20111013.pdf). This report describes the development of the BMP cost functions as well as the planning, permitting, design, and construction cost assumptions that were used.</p> <p><u>CREST / Monte Carlo Model</u></p>

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	<ul style="list-style-type: none"> - Hydrologic Simulation Program-FORTRAN (HSPF) - Structural BMP Prioritization and Analysis Tool (SBPAT) <p>WMMS is the chosen model, however, the choice of modeling is not explained on any basis of comparison of CAPITAL COST and OPERATIONS AND MAINTENANCE differences.</p> <p>CREST (TMDL) used the Monte Carlo model which is not mentioned in the Permit. We do not understand the differences incurred between two different models and the effectiveness of the control methods.</p> <p>It is unclear how Outfall Monitoring data is incorporated as a comparative basis to the modeling.</p>	<p>The Monte Carlo model is used by the Group for a Load Reduction Strategy (LRS) that it is utilizing to implement the <i>Los Angeles River Watershed Bacteria TMDL</i> and achieve final dry weather bacteria waste load allocations (WLAs). It should be noted that the Group does not use the Monte Carlo model for wet weather stormwater analyses, but only for dry weather analyses of specific areas of the watershed. Furthermore, the Group also includes additional analyses for dry weather aside from its use of LRS and Monte Carlo models.</p> <p>LRS are an optional, but defined, approach that is incorporated in Attachment O, Table O-1 (<i>Los Angeles River Bacteria Implementation Schedule for Dry Weather</i>) of the Los Angeles County MS4 Permit.</p> <p>The steps of an LRS are defined and outlined in pages 61 through 63 of the <i>July 15, 2010 Los Angeles River Watershed Bacteria TMDL Staff Report</i>. This includes the usage of Monte Carlo methods, as listed in Step 3, Part 2:</p> <p style="padding-left: 40px;">The mathematical method used to make the prioritization is a Monte Carlo simulation [or equivalent] to (1) evaluate both the individual and cumulative E. coli loading rates from outfalls along a segment or tributary and (2) prioritize implementation actions based on these E. coli loading rates and, if desired, data for other indicators including source identification data (e.g., human Bacteroidales, human-specific viruses, etc.).</p> <p>The Group's application of a Monte Carlo model is sound and acceptable.</p> <p><u>Outfall Monitoring</u> Monitoring is outlined in the Group's Coordinated Integrated Monitoring Program (CIMP).</p>

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		<p>The Adaptive Management process will use newly available monitoring data collected, including outfall monitoring data, as required by the permit, as well as information and data from sources other than the Permittees' monitoring program(s), which inform the effectiveness of the actions implemented by the Permittees. The monitoring data and other relevant information will be used to refine the hydrologic and pollutant fate and transport modeling of the EWMP area. Such refinements will allow the ULAR Watershed Management Group to better identify pollutant sources, estimate pollutant loads, and predict pollutant load reductions resulting from implementation of effective watershed control measures.</p> <p>Currently available data and studies were used to develop the ULAR watershed model.</p>
4	<p>PEER REVIEW</p> <p>April 2010 CREST Monte Carlo Model, Appendix 1: Details for Load Reduction Strategies and Scenarios for the Los Angeles River Watershed Bacteria TMDL Technical Report Dry Weather Implementation Plan states:</p> <p><i>Treatment BMPs</i> <i>A third general option is that flow from a subwatershed could be routed through a treatment BMP (e.g., a sand filter or a treatment wetland) with the ability to reduce bacteria concentrations in dry weather flows and discharge the treated runoff. It is likely that the effective BMP removal of the bacteria discharged from</i></p>	<p>Comment considered.</p> <p>The Group is not required to conduct peer review of its EWMP or the associated modeling.</p>

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	<p><i>the outfall would be less than 100%. Peer-reviewed information on treatment BMPs that effectively reduce bacteria concentrations is scarce. It is unclear whether treatment BMPs for bacteria would also remove other pollutants and benefit implementation efforts for other TMDLs (e.g., the Metals TMDL).</i></p> <p style="text-align: center;">COMMENTS</p> <p>Peer Review is not addressed in any meaningful way.</p>	
5	<p style="text-align: center;">RAA MODEL PARAMETERS</p> <p>8.2.3 Updates to RAA Model Parameters states:</p> <p><i>Over time, the parameters in the watershed and BMP models used for the RAA may be updated based on newly available data. For example, as additional control measures are implemented in LA County, new data may become available regarding performance of control measures for reduction pollutants. In turn, the performance metrics in the RAA could be updated. Other types of data that could support RAA updates include soil infiltration data, revised catchment delineations, modified operations to impoundments / reservoirs, and major changes to the quality or volume of effluent discharges from publicly owned treatment works.</i></p>	<p>Comment considered.</p> <p>As previously noted, the Adaptive Management process will use newly available monitoring data collected, including outfall and receiving water monitoring data, as required by the permit, as well as information and data from sources other than the Permittees' monitoring program(s), which inform the effectiveness of the actions implemented by the Permittees. The monitoring data and other relevant information will be used to refine the hydrologic and pollutant fate and transport modeling of the EWMP area. Such refinements will allow the ULAR Watershed Management Group to better identify pollutant sources, estimate pollutant loads, and predict pollutant load reductions resulting from implementation of effective watershed control measures.</p> <p>Currently available data and studies were used to develop the ULAR watershed model.</p>

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	<p style="text-align: center;">COMMENTS</p> <p>We do not understand how these updates coordinate with monitoring and pollutant reduction load identification other than outfall monitoring. Proposition O projects from the City of Los Angeles have no data that can verify load reductions. This is an NPDES permit based on Source Point discharges.</p>	
6	<p style="text-align: center;">ADAPTIVE MANAGEMENT FRAMEWORK</p> <p>ES.1.5 Adaptive Management Framework states:</p> <p><i>One of the key components of the EWMP is the incorporation of an Adaptive Management Approach for evaluating monitoring data and “lessons learned” or experience gained during implementation to evaluate EWMP implementation progress. The Permit specifies that an adaptive management process will be revisited every two years to evaluate the EWMP and update the program. The EWMP strategy will evolve based on monitoring results by identifying updates to the EWMP Implementation Plan to increase its effectiveness.</i></p> <p style="text-align: center;">COMMENTS</p> <p>It is unclear if how Monitoring will be achieved for Regional Projects, LID Low Impact Development and Green Streets. They are not Source Point discharges.</p>	<p>Comment considered.</p> <p>Monitoring will be conducted in accordance with the Group’s CIMP, which establishes receiving water and outfall monitoring locations.</p> <p>Regarding point sources, runoff that enters the Group’s MS4 and is discharged into receiving waters is a point source regulated by the federal NPDES program. Although regional projects, LID, and green streets are typically constructed outside the MS4, these control measures treat and/or retain runoff that would otherwise flow freely into the MS4 and subsequently into receiving waters. These control measures, which manage runoff before the MS4, are sound and established practices used to improve downstream water quality.</p> <p>Further, as previously noted, the Adaptive Management process will use newly available monitoring data collected, including outfall and receiving water monitoring data, as required by the permit, as well as information and data from sources other than the Permittees’ monitoring program(s), which inform the effectiveness of the actions implemented by the Permittees. The monitoring data and other relevant information will be used to refine the hydrologic and pollutant fate and transport modeling of the EWMP area. Such refinements will allow the ULAR Watershed Management Group to better identify pollutant sources, estimate pollutant loads, and</p>

Comment No.	Joyce Dillard Comment	Los Angeles Water Board Response
		predict pollutant load reductions resulting from implementation of effective watershed control measures.